

ABSTRACT OF THE DISCLOSURE

A linear motor (M) has a linear motor movable element (10) made up from a group of permanent magnets 5 (1a - 1d), and a linear motor stator (20) made up from two electromagnetic coils (2a, 2b). The polarization directions of the permanent magnets (1a, 1c) of the linear motor movable element (10) are opposite to each other in a y-axis direction perpendicular to an x-axis 10 direction which is a moving direction. The permanent magnets (1b, 1d) with the same rectangular parallelepiped shape and a polarization direction rotated from each other through 90° are arrayed between the permanent magnets (1a, 1c). An ideal sine wave 15 magnetic field is thus formed.